

The Nature of An Industry

**Structure:** Concentration, Market Power, Technology

**Conduct:** Decisions on pricing, advertising, R&D, etc

**Performance:** Profits and the effect of the industry on social well-being

Market power: The ability of a single firm to raise its product price and keep a lot of its customers.

Examples:

A single dry cleaner has very little market power, because if it raises its prices it will lose most of its business to competitors.

Comcast cable has a lot of market power; when it raises prices they don't lose a lot of customers.

Concentration: What portion of sales in an industry is concentrate among a few large firms?

Examples:

Low concentration in the dry cleaning industry, because most sales occur in small individually owned businesses.

High concentration in package delivery; most business concentrated in large firms (USPS, UPS, DHL, FedEx.)

Two methods of measuring concentration

1. Four-firm concentration ratio.

The percentage of total sales in an industry that are sold to the four largest firms in the industry.

Example: A fake industry consists of 5 firms (an no more). Their sales are:

Firm 1: \$49 million

Firm 2: \$40 million

Firm 3: \$30 million

Firm 4: \$20 million

Firm 5: \$6 million

So total industry sales:

$49+40+30+20+6 = \$145$  million

The sales the largest 4 firms

$$49+40+30+20 = \$139 \text{ million}$$

So the four firm concentration ratio

$$\$139 / \$145 = 0.96$$

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So total industry sales:

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$49/145 = 0.3379$  % of industry sales going to firm 1

$40/145 = 0.2759$  % of industry sales going to firm 2

$30/145 = 0.2069$  % of industry sales going to firm 3

$20/145 = 0.1379$  % of industry sales going to firm 4

$6/145 = 0.0414$  % of industry sales going to firm 5

2nd way to calculate concentration:  
Herfindahl-Hirschmann Index (HHI)

Step 1: Calculate market share of each and every firm in the industry. (We did this on the last page)

Step 2: Square each market share number that you calculated in step 1

$$0.3379 \times .3379 = 0.1142$$

$$0.2759 \times .2759 = 0.0761$$

$$0.2069 \times .2069 = 0.0428$$

$$0.1379 \times .1379 = 0.019$$

$$0.0414 \times .0414 = 0.0017$$

Step 3: Add up results from step 2:

$$.1142 + .0761 + .0428 + .019 + .0017 = 0.2538$$

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Step 4: (Last step)  
Multiply the result of step 3 by 10,000

$$.2538 \times 10000 = 2538.0$$

Anti-trust laws are supposed to prevent mergers and acquisitions among industry competitors.

Rule of thumb (used in the past): A merger or acquisition that increases HHI by more than 100 points is prohibited by the Justice Department. (Unless there are extenuating circumstances, e.g one of the companies is near bankruptcy.)

Also, don't forget international competition when calculating HHI.

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